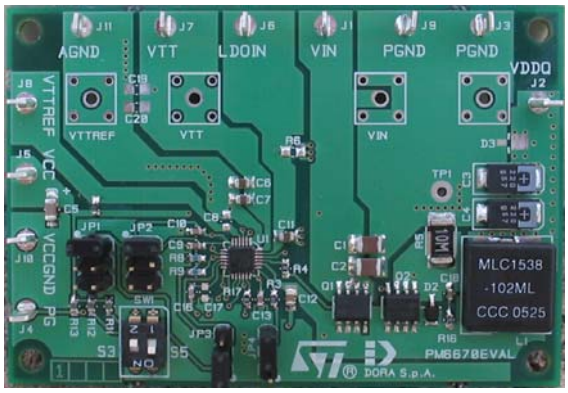
STEVAL-ISA051V1

Complete DDR2/3 memory power supply controller evaluation board based on the PM6670S

Data Brief

Features

- 4.5 V to 28 V input voltage range
- 0.9 V, ±1% voltage reference
- 1.8 V (DDR2) or 1.5 V (DDR3) fixed output voltages
- 0.9 V to 2.6 V adjustable output voltage
- 1.237 V ±1% reference voltage available
- Very fast load transient response
- Constant on-time loop control
- No R_{SENSE} current sensing using the $R_{DS(on)}$ of the low-side MOSFETs
- Negative current limit
- Latched OVP, UVP and thermal shutdown
- Fixed 3 ms soft-start
- Selectable pulse-skipping at light load
- Selectable no-audible (33 kHz) pulse-skip mode
- All ceramic output capacitors application supported
- Output voltage ripple compensation



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The device is fully compliant with system sleep states S3 and S4/S5, providing LDO output high impedance in suspend-to-RAM and tracking discharge of all outputs in suspend-to-disk.

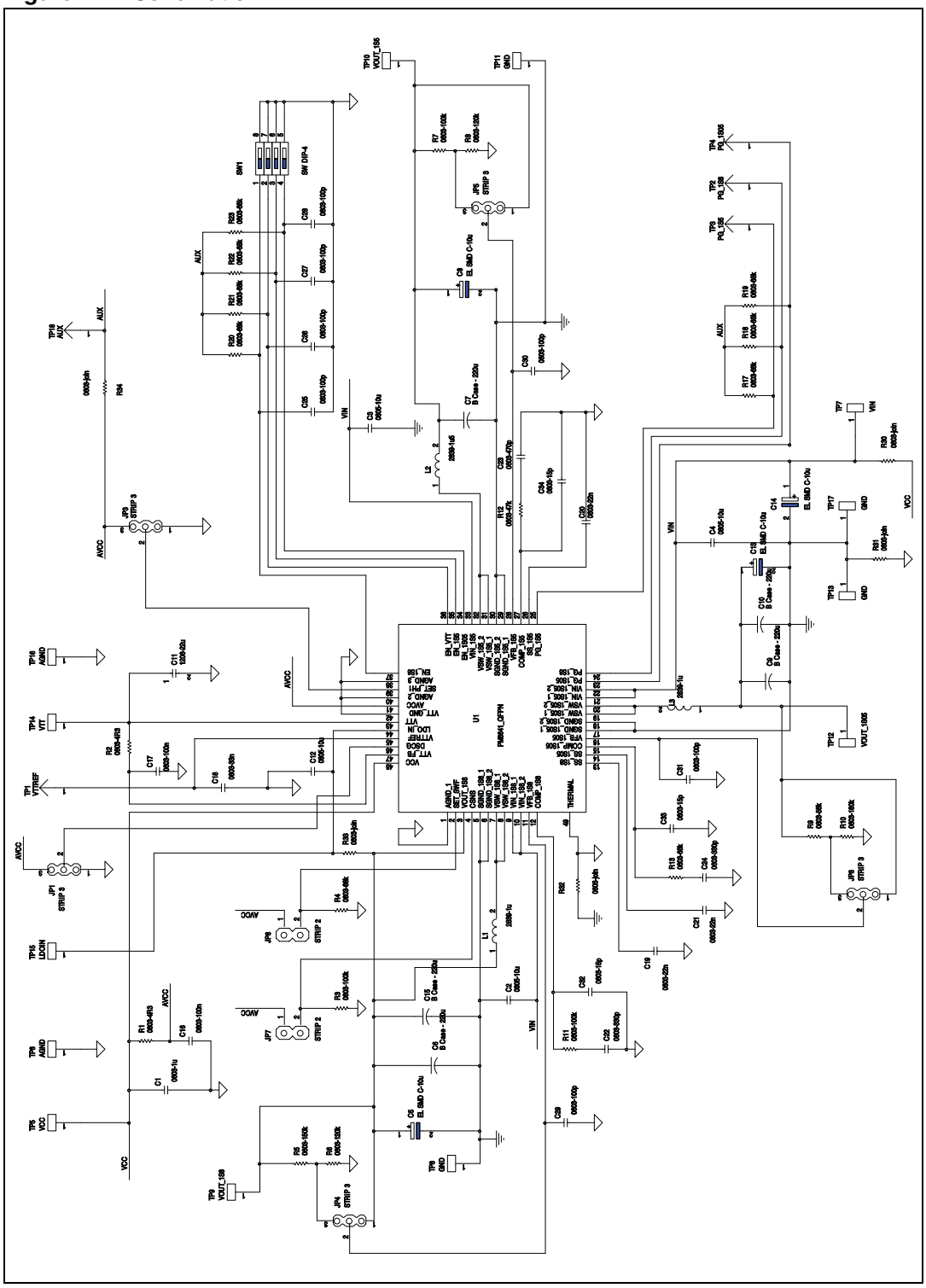
Description

This evaluation board is based on the PM6670S and represents a complete DDR2/3 power supply regulator for portable applications designed to meet JEDEC specifications. It integrates a constant on-time (COT) buck controller, a 2 Apk sink/source low drop-out regulator and a 15 mA low noise buffered reference. The COT architecture assures fast transient response supporting both polymeric and ceramic output capacitors. An embedded integrator control loop compensates the DC voltage error due to the output ripple. The 2 Apk sink/source linear regulator provides the memory termination voltage with fast load transient response.

For further information contact your local STMicroelectronics sales office. www.st.com

1 Circuit schematic

Figure 1. Schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Feb-2008	1	Initial release.

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